The Veterinary Record

FOUNDED BY WILLIAM HUNTING, F.R.C.V.S., 1888.

No. 22. JUNE 3, 1933. VOL. XIII.

DISTEMPER IN THE MINK

DR. R. N. SHAW, VETERINARIAN,
NORTHBORO', MASS, U.S.A.

During the past year, the subject of distemper in minks has reached the point of a major problem among mink men. Prior to that time, mink men in general steadfastly maintained that the mink is not susceptible to any contagious disease. Some, however, expressed the opinion that some day we would, in all probability, have disease of a contagious nature to contend with. Prior to the spring of 1932, there had never been, to my knowledge, anyone actually engaged in mink raising who would admit that a contagious disease did exist.

Since the publication of an article on distemper in minks, by the author, in the *Black Fox Magazine*, in the fall of 1932, there has been a great deal of interest manifested by mink men throughout the United States and Canada. Reports of similar outbreaks in herds of minks, well scattered through the United States and Canada, have been received. It is quite probable that the disease existed long before, but was not recognised as distemper.

In our own herd, losses were rather heavy, due to the fact that it was necessary to do our research work after the disease appeared, and also that it made its appearance when the kits were extremely young and very susceptible.

It is gratifying to state that after the research work had been completed, and we administered treatment along the lines of the Laidlaw-Dunkin method, the trouble completely cleared up, and we were able to go into the breeding season this spring with about 400 selected minks, all apparently in good, healthy condition. We pelted about 500 minks of inferior quality that had survived the distemper outbreak.

That a contagious disease of a serious nature does exist, has now been proved beyond a doubt. The fact that it has never before been recognised as such, is probably due to the fact that the vast majority of mink owners and caretakers are laymen, and have not the training necessary to recognise a contagious disease even though it appears.

Feeds have caused so much disturbance in minks in the past, that the older mink men are inclined to lay all troubles to this source. On the other hand, research workers in the veterinary profession, working independently in distant parts of the world, agree that minks are susceptible and do have distemper. This is evidenced by the following quotation, taken from a paper written by Major George W. Dunkin, of London, England, and appearing in the *Veterinary Bulletin* (Lederle). He states: "Rudolph, of Vienna, has discovered distemper in the mink, silver fox, and also in the raccoon. Hinz, in Berlin, in a personal communication, and Wood, in America, have confirmed these observations so far as minks are concerned."

In the case of Wood, in America, I have a personal communication from him, in which he states that his observations were made from experiments which were greatly limited by his inability to get minks to work upon, but that he was convinced that minks were susceptible to distemper. I have no doubt that the observations of Rudolph and Hinz were likewise the result of research work in their attempt to infect minks with the disease.

In addition to these authorities, I am told that Dr. Alan Secord, of the Ohio State University, described distemper in minks in his lecture course to the students of the Veterinary College, this past year.

Substantiating this research work, the minks at our place in Garland have just passed through a severe outbreak of distemper. I know of at least four other ranches that are suffering from similar outbreaks this season; doubtless there are many more.

As far as I know, there has never been any publication covering an actual outbreak of distemper in minks. As this is a vital question to all those connected with the mink raising industry, I believe the facts which we have already proven, should be given in detail, so that other mink ranches may benefit by our experience. With this in mind, I am giving a report of the outbreak in our herd of 1,129 minks.

Our first case made its appearance April 25th. Between then and June 12th, we had nine cases in adults, two of whom died. These adults were well scattered through the ranch, and at first their trouble was not recognised as a contagious disease. We believed it to be of dietary origin and tried to locate the trouble in the feed.

On June 12th, we discovered six litters, containing 30 minks, all of which were well-marked cases. Every youngster in this group died within ten days.

It is interesting to note that none of the mothers nursing these minks was infected at the time; two of them developed the disease later.

When my attention was called to these six

DEPT. OF VET. MEDICINE

litters, I was convinced that we were dealing with a contagious disease of a serious nature. At the same time I decided to leave no stone unturned in my efforts to discover the cause and control for this disease.

Through the courtesy of the Lederle Laboratories, Inc., Pearl River, New York, I was given permission to use their equipment in running down the trouble, and with the hearty co-operation of Dr. Norman J. Pyle, their Director of Veterinary Research, we proved beyond a doubt that the disease was distemper and highly contagious.

An American-born Mink Litter.

Laboratory Investigation

On June 15th, I took seven infected minks—five kits and two adult females—to the laboratory for research work. A detailed report of the laboratory investigation follows. For convenience, the minks are classified in three groups.

GROUP I

Two kits died *en route* to Pearl River. Clinical examination showed a pronounced dermatitis and purulent conjunctivitis. Upon autopsy, there were found congested areas on the lungs and an enlargement of the spleen, chiefly through its thickness. The liver was congested and mushy. No other lesions were apparent. Bacteriological examination of the heart blood, spleen, liver and kidneys was negative, other than for the colon organisms.

GROUP II

Three kits showing acute symptoms of the disease, similar in all respects to those in Group I. Autopsy and bacteriological examinations were also identical. The spleens, livers, and mesenteric lymph glands of the three kits were removed aseptically, reduced to pulp, and suspended in sterile saline solution, sufficient of the diluent being used to make a 20 per cent. suspension.

Three c.c. of the suspension were injected intra-muscularly into each of two four-months-old dogs. Ten days later one of the dogs showed unquestionable symptoms of canine distemper. Autopsy presented a normal picture, other than for the presence of a few intestinal roundworms. The spleen of this animal was removed and frozen as a means of preserving its virus content for further investigation. The remaining dog showed slight evidences of distemper two days later.

One c.c. of the suspension was injected subcutaneously into a ferret. Ten days later it came down with typical distemper and showed lesions identically the same as those characterising the mink disease; *viz.*, the pronounced dermatitis, swelling of foot-pads, etc. Here again the spleen was removed and frozen for further use.

Three guinea-pigs received 1 c.c. of the suspension subcutaneously, and two rabbits were given 2 c.c. intra-muscularly. They remained healthy and were finally discarded in the same condition. It should be mentioned that neither of these two animals is susceptible to distemper, and, therefore, should remain healthy. If the suspension, on the other hand, contained a bacterial pathogen, the animals would undoubtedly have succumbed to infection.

GROUP III

Two mink, one showing chorea following an acute attack of the disease, the other apparently showing complete recovery from a previous attack. These two mink were held for further observation.

Six additional mink were received June 24th, 1932. Three were severely ill; the remaining three were only slightly affected. Autopsy and bacteriological examinations were identical with those previously described. The spleens, portions of the livers, and the mesenteric lymph glands were removed and frozen for further use in transmitting the virus. It was necessary to hold this virus for several days while awaiting the arrival of experimental normal mink and cages.

ADDITIONAL TRANSMISSION EXPERIMENTS

Pen 1.—Adult normal mink—received spleen suspension from infected mink. Eight days later it went off its feed, was quiet, lethargic, but recovered in a few days. It is probable that this mink had developed some resistance to the disease, this being associated with its age.

Pen 2.—Normal kit—received spleen suspension from an infected mink—same as given to the adult in Pen 1. About eight days later it developed symptoms characteristic of the disease which was being investigated, and died on June 11th, 13 days after the injection. This result would indicate that the kit was more susceptible than the adult.

Pen 3.—Adult normal mink—received suspension of spleen taken from the ferret which died

of the transmitted mink disease. Seven or eight days after the injection, the mink refused feed, developed a catarrhal discharge from the eyes. It continued to show these symptoms for several days, but completely recovered in a week or two.

Pen 4.—Normal kit—received suspension of spleen taken from the ferret which died of the transmitted mink disease. Nine days after the injection the animal went off its feed and gradually developed typical symptoms of the disease under investigation. It died July 14th, 16 days after injection. Here again, the results indicate that the kit was more susceptible than the adult mink.

Pen 5.—Adult normal mink—received spleen suspension taken from dog which died of the transmitted mink disease. In about eight or nine days this mink became dull, listless, and went off its feed. These symptoms persisted for several days, but were followed by complete recovery. It was evident that this adult mink had a slight attack of the disease, but had sufficient age resistance to overcome it. A normal kit was not available for a similar transmission experiment.

Pen 6.—Adult normal mink—received no injection—used as control on feeding methods and handling, etc. It remained perfectly normal throughout the entire experiment.

Pen 7.—Adult female—one of the two mink received June 15th, in a state of recuperation. It had completely recovered from the infection, and was given an injection of spleen tissue virus taken from an infected mink for the purpose of determining whether one attack of the mink disease conferred an immunity sufficient to withstand subsequent infection. This animal remained in perfect condition, at no time showing any effects of the injection.

Pen 8.—Adult female—the other of the two mink received June 15th, in a recuperating stage. This animal, however, showed chorea. It was held in the pen under observation. It did not improve, gradually grew thin, and refused feed. It was finally destroyed. This experiment indicated that nervous complications of the mink disease, as of distemper, are usually fatal.

Pen 9.—Adult normal mink—skin over left thorax was shaved and scarified, after which material taken from the skin lesions of infected mink was rubbed into the prepared areas. The animal remained normal. There was no transmission of the skin lesion.

Pen 10.—Normal kit—received the same treatment as the adult mink in Pen 9. During the shaving, etc., this animal escaped twice and was completely exhausted when finally caught. As a result, it died the following day.

Pen 11.—Adult normal mink—received no injection; used as a control on feeding methods and handling, etc. It remained perfectly normal throughout the entire experiment.

Pen 12.—Cat and two kittens, two months old. Each of the three animals received an injection of a suspension of spleen virus taken from a diseased mink. Both the kittens died of the infection 13 and 14 days later respectively, after the injection. The adult female cat showed no ill effects whatever. Autopsy and bacteriological examinations of the two kittens were negative; typical of the mink dead of the disease under investigation.

Pen 13.—One ferret—received an injection of spleen tissue suspension taken from the diseased mink received on June 24th. This experiment was a duplicate of that carried out in Group 2 on June 15th. Seven days after the injection, the animal showed a reddening of the foot-pads, of the membranes around the mouth, also of the skin of the thorax and abdomen. There was also a pronounced catarrhal discharge from the nose and eyes. The next day the animal became infested with maggots and it was necessary to remove the testicles. This resulted in death during the next 24 hours. This animal would, undoubtedly, have succumbed to the injection a few days later.

Microscopical examination of skin lesions failed to show the presence of parasites.

SUSCEPTIBILITY TO NATURAL INFECTION

The susceptibility to natural infection in our herd proved practically the same points as the above experiments. The young minks were 100 per cent. susceptible. This was proved by the fact that if one mink in a litter contracted the disease, the entire litter would soon have it, if they were left untreated.

The adults showed a surprising amount of resistance. Many of the females nursing sick litters failed to contract the disease, even though the entire litter would sicken and die.

Symptoms

The clinical symptoms of a mink sick with distemper cover a wide variety of changes, many of which are identical with distemper in dogs or other animals. In the majority of cases, the first symptom noticed is a watery discharge from the eyes and nose. As the disease progresses, this discharge becomes purulent, frequently caking in those regions, and completely closes both the eyes and nostrils.

Soon after the first symptoms appear, there is an extensive swelling of the nose and feet, characterised by severe dermatitis, which appears like scabbiness. The feet sometimes attain proportions three or four times their normal size.

Dermatitis on the nose seems to appear first at the edge of the hair, working rapidly back toward the eyes and ears. On the feet, it first appears on the foot-pads and toes, gradually

XUM

extending up the legs. In severe cases of long standing, this dermatitis extends practically all over the entire body, producing large folds of skin. In the case of males, the urine dribbles, producing a wet, foul-smelling condition around the sheath. In the extremely severe cases, the belly becomes covered with pustules. At this stage there is a terrible odour present.

Temperatures.—Due to the nature of the mink, it is impossible to get an accurate temperature, as the simple restraint necessary, together with the insertion of a thermometer, would excite them to such an extent that their temperatures would rise from this alone. There is, however, every indication that a mink sick with distemper has a sharp rise in temperature, as they appear to drink more water than usual.

Appetite.—The appetite varies greatly with the individual. Some young minks will refuse feed as the first symptom. These cases usually run a very short course and die. The majority of minks will continue to eat long after clinical symptoms appear. This was quite surprising, for in dogs having distemper we get a complete loss of appetite in nearly 100 per cent. of the cases.

With our minks, we found a great many cases where the nose and feet were swollen to several times their normal size, and eyes and nose would be completely closed with the encrusted purulent exudate—still they would be out eating as ravenously as ever.

Droppings.—In many cases the droppings remain normal during the early stages of the disease. However, the general rule seems to be a darkening in their colour, and they are somewhat looser and frequently covered with mucus. In the advanced stages of the disease the droppings are practically always of a tarry consistency, and very dark.

Nerves.—Another form of the disease is the exhibition of acute nervous symptoms, where the animal will be apparently normal, and will suddenly go into convulsions and die. The duration of the convulsions seems to vary greatly. We have had the animals die within an hour after the convulsion started. In other cases, I have seen them lie for three or four days in a coma, twitching continuously, and finally dying. In these nervous cases we do not get the clinical symptoms described above.

Sometimes adults with nervous symptoms would apparently recover, with the exception of a persistent chorea. Then after two or three months they would take a turn for the worse and die in a coma. Frequently we would find minks dead in the morning that were apparently normal the night before. These, no doubt, were nerve cases of an acute type. Sometimes these nervous cases would lose the use of their hind parts some few days prior to death.

MORTALITY

The mortality, like the susceptibility, varies greatly between the kits and the adults. In the case of the kits, practically 100 per cent. of all those infected will die, in spite of any known treatment.

In the case of adults, more than 50 per cent. of those showing clinical symptoms will recover without treatment.

The Fisher: A Comparatively Rare Animal.

Preventative Treatment and Control

As this is a disease of minks on the prevention and control of which there has previously been little or no work done, our findings must necessarily be considered incomplete and subject to revision.

As far as we have been able to learn, up to the present, there is no effective treatment after the clinical symptoms appear. We have, however, been very successful in the prevention and control of further progress of the disease, by using Hæmologous Anti-Canine Distemper Serum (Lederle) on all susceptible animals which have not developed the disease. Animals which have not advanced more than four or five days in the incubative stage will also respond to treatment with serum. After this stage, the serum is apparently worthless.

The only disadvantage of the serum treatment is that the immunity will only last about three weeks, at which time it is necessary to treat again in order to be safe. Treatment should be kept up every three weeks, as long as there is infection on the premises. To overcome this, we are now attempting to perfect a vaccine that will give a more lasting immunity.

To give some indication of the effectiveness of the serum, the two groups following will serve as an illustration:—

Group I.—Six litters containing 30 young minks, with one or more in each litter showing clinical symptoms of the disease. No serum was given to this group.

Ten days later, after the first indication of the disease, 27 of the 30 were dead. The remaining three died the following week.

Group II.—Ten litters containing 39 young minks. As in Group 1, one or more in each litter showed clinical symptoms of the disease. All of these young minks were given a dose of serum the day the trouble was discovered in each litter.

Ten days later, of the 39, nine were dead, four were sick, and 26 were apparently normal.

It is quite possible that the first group were a little farther advanced clinically when they were discovered, than the second group. However, I feel that the comparison is conclusive evidence of the benefits derived from the serum treatment.

Of course, the 26 in the second group which appeared normal at the end of ten days were also apparently normal when treated, but might have been in the incubative stage of the disease. The sick minks were not removed from the litters until they died.

We have approximately 500 young minks that were treated with serum six weeks ago, and again ten days later. We also have approximately 170 young minks which were brought onto the ranch about three weeks ago. All of these were given serum when they arrived.

Our adult minks were never treated with serum, as we believed their natural age resistance would prevent serious losses among them.

We still have new cases appearing occasionally among this group, which keeps plenty of infection on the ranch. In spite of this, we have had only one new case develop in the past month among the young minks which were not from infected litters.

Conclusions

(1) The disease is distemper, and is of a highly contagious nature.

(2) Cats, dogs and ferrets, as well as minks, are susceptible to the disease.

(3) Adult minks show a considerable amount of resistance to the disease, while kits are very nearly, if not quite, 100 per cent. susceptible.

(4) The course of the disease, following the injection of virus, including the incubative period, is from ten to 16 days.

(5) In all cases, the bacteriological examinations failed to show any specific pathogens; autopsies were also negative. These facts are both characteristic of a filterable virus disease, and check perfectly in every respect with canine distemper.

(6) Hæmologous Anti-Canine Distemper Serum injection is very effective as a preventative and control measure. It produces a passive immunity which lasts no more than three weeks.

The serum, as treatment in clinical cases, is worthless.

(7) There is still much to be learned about distemper in minks. We hope that experiments which we are now conducting will shed more light upon the subject.

JOHNE'S DISEASE

A. SPICER, F.R.C.V.S.
Crabwood, Oxted

Early last year I published a paper on Johne's disease, in which it was suggested that this disease was not really an infection and that the bacillus was not harmful to cattle unless their systems were weakened by bad farming, mineral deficiency and heavy milking. Since that time three more examples have come to light which tend to prove the correctness of that assertion.

Two years ago I assumed the veterinary management of a large herd of cattle in which Johne's disease was very prevalent: a large number of cattle had died from it, and when I took over there were three cases, two of which were quite hopeless, while the third had a more chronic form but had to be destroyed about six months later, when she calved. The farm was, without question, heavily infected. I immediately arranged that the cattle should receive a liberal allowance of minerals, but no other precaution whatever was taken, and since that date there has not been a single case of Johne's disease.

Three brothers were farming on one farm and had heavy losses from this disease. Eighteen months ago one brother took another farm and separated from his brothers, taking with him one-third of the cattle. On the original farm the concentrated food was made by mixing up the foods that constituted the cheapest ration, but no minerals were used, and after the separation they continued to do so and the losses still continue.

When the brother started on his own he used what was grown on the farm and for concentrate used a good brand of cake containing minerals. This has been going on for 18 months and he cannot understand why he has never had a case of Johne's disease during the whole of that time.

On March 31st I received a letter from Lieut.-Colonel Graham Rees-Mogg, F.R.C.V.S., and the contents are as follows:—

"I have fed my dairy herd on mineral salts and fish meal in greater amount lately and have not had a case of Johne's disease for over 18 months. Two years ago I lost five very good cows within four months.

"I keep all my young stock, except those suckling their calves, in different fields from the old cattle and have done away with all ponds. Of course, it is too early at present to say how I stand.

"As you say, it certainly seems very odd that the disease should die down when all the pastures must be heavily contaminated."

A fourth case has just come to my notice,

but as it is only of one year's duration it does not carry much weight. A year ago a farmer complained that he always lost about four cows each year from Johne's disease and I advised him to feed his cows with minerals. Since that time he has not had another case.

So far I have only heard of one case on any of the farms mentioned in my last paper, and this was a Guernsey heifer that had been bought when about 18 months old; she calved down and gave 1,000 gallons at her first lactation, and started wasting after calving for the second time. On this farm only one pound of minerals is fed to every hundredweight of concentrate. This is not sufficient. Also, we do not know the history of this animal: her mother may have suffered from Johne's disease and, not having enough minerals for herself, the calf may have gone short—to this extent it would be hereditary, and probably as a calf she did not get enough minerals.

Of what a mineral ration should consist must be a difficult question to answer in the present state of our knowledge, but the ration usually sold must be somewhere near the mark, as it seems to be successful, and this consists of 50 per cent. powdered chalk, 50 per cent. bone meal, with some salt, iron, sulphur and potassium iodide. On a good many soils there is a shortage of lime and if bone meal alone were fed phosphates would be in excess and that would increase the demand for lime up to a certain point—and if too much lime were fed the reverse would happen. It seems safest at present, therefore, to feed an excess of both, and what is not wanted will be excreted as waste material.

It is very important to feed a good brand of minerals. I have come across at least two brands that the cattle would not eat when only an ounce was sprinkled over the food; needless to say, they were cheap.

Another case may be quoted which suggests that Johne's disease is not infectious. There is a farm I have known well from about 1910: it consists of about 40 acres of extremely good pasture, except one field in which the chalk comes to the surface over a space of about six acres. Eight cows and several young stock have been kept on this farm over the whole of that period; they have been well fed but never forced for milk and have been very healthy. There are two ponds on this farm.

On one occasion a cow was bought in which turned out to be a typical case of Johne's disease. It was running all over the farm for four months and was ultimately sold, after having had ample time to infect all the fields and both ponds. In all that time this was the only case of Johne's disease.

THE VETERINARY PROFESSION AND THE PUBLIC

Lt. E. W. BEVAN, M.R.C.V.S.

Recent events have drawn attention to the importance of the veterinary profession to the public. The controversy concerning "pure milk" awakened the interest of every mother desirous of protecting her children against tuberculosis and the many dangers associated with impure milk. It was generally realised that pasteurisation and boiling were not sufficient to ensure a clean, healthy and health-giving milk, and, in fact, might actually disguise filthy milk which otherwise would become putrid and by its taste and smell give warning of its impurity. The arguments advanced by the "purists" against those interested in the sale of milk, clearly indicated that pure milk could only be obtained from healthy cows by clean methods, and that the only person qualified to determine what constituted a healthy cow was the veterinary surgeon.

The common-sense reasoning of the housewife was largely confirmed by the report of the Reorganisation Commission for Milk, which already appears to have borne fruit in that county authorities are increasing the number of their veterinary inspectors. This is all to the good, provided the remuneration of these officers is commensurate with the importance and onerous nature of their duties. In the past this has not always been the case, and in some counties the veterinary officers have been notably overworked and underpaid. "The workman is worthy of his hire" and if the public requires healthy food supplies it must be prepared to pay for them. We can assure them that the money spent on veterinary inspection will be money well spent. What price would a mother consider too high to protect her children from tuberculosis? Sir Frederick Hobday, speaking at a meeting of the People's League of Health, recently stated that it was estimated that there were now over one million tuberculous cattle in Great Britain, and in the dairy herds no less than an average of between 30 and 40 per cent. would react to the tuberculin test. He also stated that between 3,000 and 4,000 children under five years of age died every year from tuberculosis derived from cow's milk.

The danger is not limited to milk: other foods are equally dangerous. A few weeks ago a butcher was charged at the Guildhall with having deposited at the Central Market the carcass of an animal diseased and unfit for the food of man. In defence, it was urged that had the accused known that the animal was diseased he would not have sent it to the Central Market, where the regulations were so stringent that there would be no chance of escaping detection. That was a tribute to the value of effi-

cient veterinary inspection. The animal in question was suffering from tuberculosis, and was described as "plain cow." When the Chief Veterinary Officer for the City of London was interrogated as to what might be done with such meat if it escaped detection, he said: "I am afraid it might be minced and made into pies." The public would be horrified if it knew the quantity of "plain cow" and similar material consumed in those parts of the country where veterinary inspection is not provided, as it is in the City of London.

The veterinary profession has a record of achievement of which it may well be proud, but it has had to fight a long battle against ignorance and conservatism, and its recognition has been too long delayed. Sooner or later the public must realise the many ways in which the veterinarian can safeguard its interests and will demand that an efficient and properly remunerated veterinary service be provided. When that happens it will be found that there are too few qualified veterinarians to "go round" and every member of the profession will have to be enlisted to play his part in the service of the State.

IMPORTATION OF CANADIAN CATTLE

"There appears to be some misunderstanding as to the provisions for preventing the importation into Great Britain of Canadian cattle, especially bulls, which are unsuitable for breeding purposes," says the Ministry of Agriculture in a recently-issued publication. "Under Section 8 (1) of the Ottawa Agreements Act, 1932, the facilities previously provided for the importation into Great Britain of Canadian store cattle were extended to apply to all Canadian cattle, and at the same time powers were given to the Minister of Agriculture and Fisheries to require the slaughter of any such cattle if, in his opinion, they could be used for breeding and were not suitable for that purpose. This section of the Act was brought into operation on January 16th, 1933, and all Canadian cattle landed in Great Britain since that date have been inspected by Live Stock Officers of the Ministry of Agriculture and Fisheries or of the Department of Agriculture for Scotland, with a view to deciding whether the cattle capable of being used for breeding were of a sufficiently high standard to permit of their unrestricted entry into this country.

"The number of cargoes of Canadian cattle landed under the new conditions to April 29th has been 21, of which 16 were discharged at Birkenhead and five at Glasgow. Most of the animals have been steers, these accounting for 8,035 of the 9,841 cattle imported, while bulls have numbered 341, cows 219, heifers 1,240, and calves six.

"Of the 341 bulls, only 25 have been landed at Birkenhead, and 22 of these have been ordered to be slaughtered as unsuitable for breeding. Of the 316 bulls landed at Glasgow, 213 were found to be unsuitable for breeding and were slaughtered, while a large proportion of those passed as suitable have either been slaughtered in the landing-place or licensed out of the landing-place to slaughterhouses. Nine cows and 32 heifers have been slaughtered as unsuitable for breeding."

The Veterinary Record

June 3rd, 1933.

R.C.V.S. ANNUAL MEETING

THE Ninetieth Annual Meeting of Members of the Royal College of Veterinary Surgeons to be held at 10, Red Lion Square, London, on Wednesday next, June 7th, at 12 noon, will be the eightieth anniversary of the first such meeting held on those premises. In addition to the interest which normally attaches to this meeting, in that it is the occasion when the results of the election to Council are declared, and when the Annual Report of the Council is discussed, there is this year a special reason for calling attention to it. In the same year that the profession obtained its present headquarters in Red Lion Square there was born in a Scottish farmstead a boy who was destined to make his name world-famous as a Veterinary Pathologist—Sir John M'Fadyean, who will thus celebrate his eightieth birthday on June 17th of this year.

The Council of the College, of which he has been 40 years a member, and twice its President, has been granted the power in a recent Royal Charter to elect to the Fellowship of the College a limited number of members of more than 20 years' standing, who have rendered eminent services to Veterinary Science; and the man first chosen to receive this honour is Sir John M'Fadyean.

The Diploma will be conferred on him in the name of the Council by the President, Professor Buxton, who himself is one of Sir John M'Fadyean's most distinguished pupils.

A complete report of the proceedings will appear in due course, but we hope that this preliminary notice will be sufficient to attract the attendance of a large number of members of the profession at the Annual Meeting to give support to the President, and to add, by their presence, to the assurance we are glad to feel Sir John already has, that the honour to be conferred on him is conferred with the affectionate approbation of the whole profession.

Considerable progress has been made with the scheme for a national pig recording movement. This is being fostered by the Central Council of Milk Recording Societies, the idea being that the weighing and recording can be done more economically by the present milk recorders. An influential committee met in London recently to consider the details of the plan, and it is understood that the final draft scheme will shortly be submitted.

Clinical Communications

HYPERTROPHIED SPLEEN IN THE CAT

J. F. MACDONALD, M.R.C.V.S.
PUTNEY

Subject.—Male cat, about nine years old.

Examination.—I was called to examine this cat in January, the owner stating that the animal seemed to be enlarged abdominally and was occasionally sick. The general condition was good, but palpation revealed an enlargement on the floor of the abdomen, extending from the diaphragm to the pelvic brim. It was freely moveable, roughly square in shape, and in consistency felt like liver.

It appeared unlikely that the liver could have become so displaced but, on the other hand, the enlargement seemed too enormous for an hypertrophied spleen.

Course.—No treatment was attempted, the owner promising to communicate with me in the event of severe symptoms being manifested. I heard nothing until last week, when I was 'phoned for to lethal the cat.

Autopsy.—The autopsy revealed a huge spleen weighing 16½ ounces, which must, I imagine, be in the neighbourhood of a record. No growths were present and the cat's condition was reasonably good for an animal of that age.

* * * * *

CYSTIC HERNIA IN THE DOG

J. F. MACDONALD, M.R.C.V.S.
PUTNEY

Subject.—Irish terrier (male), ten years old.

History.—This dog had had for some months a small perineal swelling on the right side of the anus, but no treatment had been adopted, as the swelling appeared to cause no inconvenience.

Course.—On April 20th, however, there was a marked increase in size, and it was obvious that a large accumulation of fluid had occurred. In this fluid there could be felt a small solid body about the size of a pea. The swelling was aspirated and for three days everything went well. On the fourth day the swelling reappeared, was tapped again, and a serous fluid withdrawn. The following day it was even larger, and a small incision was made, when fluid and the small solid body (a tumour) came away.

Rectal examination revealed the presence of other small growths. The dog seemed happy and fed well, but on the fifth day, while being dressed, he strained heavily, and a second swelling could be felt within the cavity of the first. It could not be replaced and was not therefore interfered with further. On the sixth morning an enormous swelling, extending to the external aspect of the hip, had formed.

This was tapped and a large quantity of urine withdrawn. The second swelling was definitely a cystic hernia, and, at the owner's request, the dog was destroyed by morphia and chloroform.

* * * * *

TÆNIA OVIS CYSTICERCI IN MUTTON

D. J. ANTHONY, M.R.C.V.S., D.V.S.M.

On examining the cut surface from a shoulder of mutton I found numbers of small cysts in the musculature. These cysts were filled with green caseating material, and were dotted throughout the musculature. The remainder of the carcass was then cut up, and these cysts were found to be extensively distributed throughout. The offal appeared quite normal. The cysts were diagnosed as the Cysticerci of *Tænia ovis* of the dog, and this diagnosis was subsequently confirmed by Dr. Tom Hare, of the Royal Veterinary College, Camden Town.

The rarity with which *Tænia ovis* is found in this country prompts the recording of this case. Dr. T. W. M. Cameron, in the Special Sheep Diseases Number of the *Veterinary Journal*, Vol. 88, No. 4, April, 1932, states:—

> "In the muscles of sheep in various parts of the world occur the small cysts (about the size of a pea) which are the larval stages of *Tænia ovis*, another dog tapeworm. Heavy infections may have serious effects on the sheep, but their greatest importance lies in the fact that they closely resemble the cysts of the very serious human *Tænia solium*. There is no authentic record, however, of this parasite developing in sheep, and *Tænia ovis* will not develop in man. . . ."

In this case the carcass was one of about 60 sheep slaughtered here. No other carcass was found similarly affected.

"GORILLAS AND THEIR RELATIONS"

Lecturing on the above subject recently at the Natural History Museum, Captain Guy Dollman, Assistant Keeper in the Department of Zoology, said that much doubt existed regarding the size of a full-grown male gorilla. It had been given as between 5-ft. and 6-ft., but halfway between these figures would represent a very big specimen. Reports concerning the existence of 6-ft. gorillas should be received with caution, and 7-ft. gorillas existed only in fiction. The females were very much smaller than the males, rarely exceeding 4-ft. in height. Contrary to pictorial representations, the animals walked on all fours, upon the soles of the feet and knuckles, much like the chimpanzees. They assumed the upright position out of curiosity or in attack. Their habit of beating the chest was connected by some of the older observers with a display of ferocity, but more recent accounts put it down to exuberance of spirits, while Major Powell-Cotton suggested that it was done as a signal by an old male to collect the straying females and young of his family.

Abstracts

[A Detailed Study of No-Lesion Tuberculin-Reacting Cattle. Hastings, E. G., Wisnicky, W., Beach, B. A., and McCarter, J. J.A.V.M.A. N.S. 35. 4. Pp. 565-583. Tables 12. Refs 7.]

In the early days of tuberculin testing, as now, the test proved to be very accurate, and the testing of an infected herd, with the removal of the reactors and followed by one or two re-tests, sufficed, in the great majority of cases, to eliminate tuberculosis from the herd. Apparently the reacting animals showed lesions of tuberculosis in such a high percentage of cases that the question of the possible sensitisation to tuberculin by any other agent than the tubercle bacillus was not raised. As the testing of cattle became more common, however, it became increasingly difficult to maintain the previous ideas regarding the specificity of the test, and the experience in Wisconsin, here recorded, reflects the change.

It was in 1910, when the greatest number of animals was there tested, that the no-lesion problem obtruded itself, and a study of records showed that the no-lesion case was not connected with the type of tester but apparently did have a direct relation to the type of herd tested. In those herds in which the incidence of tuberculosis was low, a high percentage of reacting cattle failed to show lesions. The introduction of the intradermal test has now made possible the examination of large numbers of animals at small expense; it led to the area method of testing, and the no-lesion case has become as important in some parts of the country as it was in Wisconsin in 1910.

The complete discussion of the no-lesion problem by Hagan (*Corn. Vet.*, xxi, 2, 1931) leads the author to eliminate its general presentation here, but it has been shown quite clearly that the number of no-lesion cases does not decrease in the same proportion as the "frank" cases of tuberculosis, as the eradication of the disease in cattle progresses, and thus the no-lesion case makes up a larger part of the total number of reacting cattle as bovine tuberculosis is forced to lower and lower planes of incidence.

The detailed study (here reported upon) of two groups of cattle consisting of one-reactor-per-herd animals indicates that some other organism or organisms than the bovine tubercle bacillus may sensitise cattle to tuberculin. The organisms to which consideration should be given in this connection are the avian and the human types of tubercle bacilli, possibly Johne's bacillus, and the saprophytic members of the tubercle group of bacteria.

It is believed that the observations herein recorded indicate that the herd history may, in the final stages of the eradication of bovine tuberculosis, serve as a supplement to the tuberculin test. It may prove possible to avoid the removal of a considerable part of those animals which now form the no-lesion group without endangering the eradication work in any way, by allowing herd history to influence the judgment as to the condition of the herd as regards tuberculosis.

W. B.

* * * * *

[Phosphorus Deficiency and Infertility in Cattle. Theiler, A. *Schweiz. Archiv. f. Tierhlk.* 1933. Vol. 75, No. 2.]

The author quotes extensively, chiefly from South African and American works, showing how a phosphorus deficiency can be associated with various degrees of infertility in cattle and sheep. With regard to South African conditions, a clear-cut case of "aphosphorosis" has been proved, and the recent work of Fitch *et al* in America has shown that the rather common doctrine of calcium deficiency as a cause of many diseases—in this special case with reference to fertility and milk production—has been much overrated.

The author goes into the matter of the mineral content of pasture grass and other foodstuffs and the Ca and P content of the blood serum of cattle in detail in illustration of his case. It has been definitely shown that aphosphorosis causes an infertility of short or long duration, due actually to ovarian subfunction (anœstrum) [this is clearly almost physiological] but whether it can be associated with the cause of infertility due to organic disease of the genital organs, remains open.

With regard to Swiss conditions, little work has yet been done, but the work of Ritter has shown that hay from some Swiss pastures is deficient in phosphorus. The author thinks it probable that aphosphorosis does occur among Swiss cattle. The supplementary feeding of bonemeal or di-calcium phosphate to breeding and lactating cows is recommended.

The 18-page article is followed by a comprehensive reference list.

J. E.

* * * * *

[Stenosis of the Bowel, with Multiple False Diverticulæ of the Small Intestine, in the Cow. (Trans. title.) Hoflund, S. (1933). *Skand. Vet.-tidskr.* 23. 185-193. 3 figs. (3 refs.) (Summary in English; abst. from orig.)]

The author describes an example of stenosis of the bowel with the formation of multiple diverticulæ in the wall of the intestine. The patient—a cow—exhibited symptoms of digestive trouble, received general treatment and was reported to be about the same a fortnight later. The symptoms probably subsided, as the owner made no further report. The cow died five-and-

a-half months later. The lesions, well depicted in a figure, occurred in the small bowel and comprised the stricture, anterior to which were the diverticulæ. The stricture was caused by a band (1 cm. thick) of scar tissue encircling the bowel, the lumen of which at this point would only permit the passage of a lead pencil. This probably resulted from an invagination which had sloughed away. Proximal to the stricture the bowel was dilated and exhibited along the mesenteric border some 30 diverticulæ, varying in size from that of a hazel nut to that of a walnut. They represented protrusion of the mucous membrane between the fibres of the intestinal muscle, which was hypertrophied (2·3 m.m.). The herniæ did not occur along the track of blood vessels traversing the muscle layer.

Petit and Germain, also Brieg, have described a similar condition in the horse, associated with ileo-cæcal stenosis; the former writes regarding it as a hernia of the mucous membrane through the muscle at the point where blood vessels perforate the muscle. Moynihan adopts the same explanation in human cases. It is not applicable to this example, probably because, as the author has demonstrated, the vessels in the ox are much smaller than in the horse.

The writer carried out several experiments, introducing water under pressure into lengths of prepared bowel. It was thus shown that artificial rupture tended to occur along the mesenteric border even when the blood vessels traversing the muscle were dissected out.

The author regards the weakness as being due to the absence of the supporting serous coat along the line of mesenteric attachment. The blood vessels in the ox, at least, appear to strengthen the bowel wall by acting as "buttresses." G. B. B.

* * * * *

[Experimental Diagnosis of Melitensis Infections of the Sheep and Goat by Allergic Reactions. Dubois, Ch. and Sollier, N. *R. G. de Méd. Vét.* Vol. xlii, No. 495 (9 refs.).]

The work performed by Burnet on the intradermal test for the detection of melitensis infections in man and goats prompted the authors to carry out similar experiments on sheep and goats. They tried several tests, subcutaneously in the upper eyelid and base of the ear, intradermally in the caudal fold and upper eyelid, the ophthalmic and the cutaneous, but discarded them all except the intradermal injection in the caudal fold. Various antigens were employed, made from cultures grown on agar, suspended in saline, killed and standardised, and also filtrate from a 20-day broth culture of *Br. melitensis* (Melitine). The antigens prepared by growth on agar were—

(*a*) Mixed strains of Melitensis and Abortus.

(*b*) Single strains of *Br. melitensis* from sheep or goats or *Br. abortus* of porcine origin.

A number of experiments were undertaken in flocks experimentally and naturally infected, using the intradermal test and one or other of the antigens, an agglutination test being performed simultaneously.

Of 18 goats artificially infected, 13 reacted to the intradermal test and only four gave a positive agglutination titre. Several tables are drawn up showing tests carried out and the results in naturally infected flocks.

The authors came to the conclusion that melitine and *B. abortus* (porcine) are the best antigens. The *Br. abortus* antigen is the antigen of choice; it is easy to prepare, economical, safe and retains its activity for an indefinite period, while melitine takes longer to prepare and loses its activity in a relatively short time. The best site of injection is the caudal fold, in a dose of 0·3 c.c. The reaction is more pronounced in sheep than in goats and in the former manifests itself as an œdematous, hot, slightly painful swelling. Specificity of reaction was proved by injection of *Br. abortus* antigen on one side and other microbic suspensions, *e.g.*, *B. typhoid*, *B. paratyphoid*, staphylococcus, etc., on the other. The authors state that the intensity of the reaction increases in proportion to the length of time following infection.

The results of their comparative tests give rise to the following observations regarding melitensis infections in sheep:—

(1) 11·4 per cent. give both reactions subcutaneously.

(2) 14·3 per cent. react to the intradermal test, but give a negative agglutination reaction.

(3) 4·9 per cent. give a positive agglutination reaction, but a negative intradermal test.

The authors consider that the number of positive intradermal tests reported was lower than was actually present. The reaction may appear between the 24th-36th hours or as late as three or four days following injection, so that a number of positives may have been overlooked. This is offered as an explanation of the large percentage (4·9 per cent.) of cases negative to the intradermal test and positive to the agglutination test. For the discrepancy in No. 2 attention is drawn to Burnet's observation that a man suffering from Malta fever may give a positive intradermal reaction but the agglutination titre of his serum may be nil.

Although the interval between injection and reaction appears to vary considerably, the intradermal test is considered by the authors to be sufficiently accurate for the diagnosis of melitensis infections of sheep; it can be carried out by the practitioner himself without having

recourse to a laboratory for an agglutination test, the result of which is often misleading. The experiments on goats have not been of sufficient number for them to venture an opinion, but results so far are almost parallel with the results obtained in sheep.

D. W. M.

* * * * *

[Various Uses of Iodo-benzo-methyl-formine in Veterinary Medicine. (Trans. title.) Houdemer. (1933). *Recueil. de Méd. Vét. de l'Ecole d'Alfort.* clx, No. 4. 200-207.]

This compound is employed in two forms. One, iodo-benzo-methyl-mono-formine (Iodoseptine), contains iodine as the predominating factor (42 per cent.), and is used for the more chronic forms of infectious disease due to sclerosing or fibrous tissue forming microbial toxins.

The other, in which iodine is present in the amount of 33 per cent. and formine predominates, is called di-formine-iodo-benzo-methyline (Septicémine) and is used for acute infections.

Both forms are well tolerated parenterally in a solution of 1 in 10, and intravenous and intramuscular routes were favoured by the author. Other routes used were—hypodermic, intraperitoneal and intratracheal injections.

The author describes the following cases of disease successfully treated by these compounds:—

Four cases of glanders, one of strangles, two pneumonia, five scirrhous cord, one non-specific lymphangitis and two due to *Cryptococcus farciminosus*, all in the horse; and one case of gastro-enteritis (hæmorrhagic) in the dog.

The glanders cases were in three instances "latent" glanders, detected by the Mallein test, and in the fourth case glanderous lymphangitis was also present. Dosage varied from 10-20 c.c. intravenously of "Iodoseptine" and 40-45 c.c. intratracheally of "Septicémine." Negative Mallein tests finally resulted.

The strangles case was treated by three intramuscular injections of "Septicémine" (two of 25 c.c. and one of 30 c.c.), *plus* abscess drainage.

The author had previously treated pneumonia cases with colloidal iodine. One of the cases described was a complication of cerebral congestion, said to cause pneumonia by false deglutition (according to the author, through pharyngo-œsophageal paralysis). Both cases recovered rapidly, with immediate gradual fall of temperature from the start of the treatment (temperature charts given).

The author claims extraordinary results by intravenous and intramuscular inoculations in the five scirrhous cord cases. The animals remained at work and no operative interference was necessary.

For lymphangitis cases intravenous and intramuscular routes were used.

The hæmorrhagic gastro-enteritis of the dog was treated by 3 c.c. intravenous daily doses of "Septicémine," with cure in one week.

A short French bibliography is appended.

C. V. W.

* * * * *

[Concentration of Polyvalent African Antivenom Serum. Grasset, E. (1932). *Trans. Roy. Soc. Trop. Med. Hyg., London*, xxvi. 3. 267.]

The method of concentrating antitoxic sera by fractional salt precipitation, as originally evolved for antitoxins of bacterial origin, has found an equally useful application in the case of antivenom sera. In this note the technique employed in the concentration of antivenom serum against African Viperidæ and Colubridæ is described. The final products, after adjustment, possess a concentration of from two to three times that of the original serum; consequently, the volume of antivenene which it is necessary to use may be reduced by at least one-half. It is claimed that the concentrated antivenene is more pure and refined than in the original serum, and the risk of serum reactions is reduced to a minimum.

Ll. E. W. B.

* * * * *

[On Fowl Paralysis Caused by *DAVAINEA PROGLOTTINA*. Dachena, Giulio, 1933. *La Clinica Veterinaria.* lvi, 95-102. February.]

Dachena has investigated a disease in a flock of 250 birds characterised by failure of appetite, diarrhœa and, in the more serious cases, paralysis.

Heterakis was present but coccidia were absent. In some of the more severe cases, *Davainea proglottina* was present in large numbers, and he believes this was the cause of the disease. Turpentine and olive oil given as an anthelmintic caused symptoms of poisoning, without removing all the tapeworms.

T. W. M. C.

MILKERS' NODULES

According to the *British Medical Journal*, V. J Asmus (*Thèse de Paris*, 1932, No. 624), who records an illustrative case in a woman, states that the condition of milkers' nodules is a rare form of skin disease of which only three cases have hitherto been published in France, by Audry (1898), Hudelo and Rabut (1931), and Maire, Woringer, and Houot (1932) respectively. The condition is found in persons who have been engaged in milking cows suffering from cow-pox, and is manifested in the form of hard circumscribed nodules situated on the hands. The ætiology is obscure. As the tubercles do not protect against vaccinia, or *vice versa*, the hypothesis of a vaccinial origin for the lesions can be excluded. On the other hand, the presence of numerous features common to the tubercles and para-vaccinia suggests the hypothesis of an identical virus for the two affections, which is confirmed by the presence of *Strongyloplasma paravacciniæ* in the nodules. The tubercles show a tendency to spontaneous recovery, and bland topical applications are sufficient treatment.

Reports

CUMBERLAND COUNTY COUNCIL: VETERINARY DEPARTMENT

ANNUAL REPORT OF THE CHIEF VETERINARY OFFICER, YEAR 1932

The fifth Annual Report of the Chief Veterinary Officer for the County of Cumberland makes most interesting reading and leaves the indelible impression of a highly creditable record of work by an active and progressive Veterinary Department. The Report is divided into two sections, No. 1 of which deals with the administration of the Milk and Dairies Acts and Orders, and in introducing this section Mr. Simpson draws attention to the criticisms and recommendations of the Reorganisation Commission for Milk, and also of the Council of Agriculture for England, and emphasises the educative value of systematic routine veterinary inspection of dairy herds.

Unfortunately, with the present staff it is impossible to carry out such inspections as regularly as might be desired, but during the year practically all farms selling milk have been visited at least once and in many cases twice. A proportion of the butter and cream producing farms has also been inspected. To amplify these inspections a large number of bulk samples of milk have been taken and submitted to biological examination for tubercle bacilli. Fortunately, the incidence of bovine tuberculosis is relatively low in Cumberland. During the year twelve complaints were received under Section 4 of the Milk and Dairies Consolidation Act, and of approximately 500 bulk samples taken in the county only seven proved to be tuberculous.

Every encouragement is given to the various sanitary authorities to coöperate with the County Council, and whenever possible the routine visits to registered premises are made jointly with the sanitary inspector of the district. Special attention has been given to the milk supplies provided for school children and public institutions, and the herds on farms holding Grade A licences have been regularly inspected.

The first section of the Report concludes with an interesting summary in tabular form of the work done and the results obtained during the year. From this summary it is learned that 31,118 cows and 1,963 premises were inspected, and 17 cases of tuberculosis of the udder, six of tuberculous emaciation and 26 cows showing clinical signs of tuberculosis accompanied by chronic cough were detected.

The numbers of samples taken and examined by the veterinary staff under the Tuberculosis Order and Milk and Dairies Order were as follows:—

Milk 257, of which 33 were found to contain tubercle bacilli.

Sputum 152, of which 81 were found to contain tubercle bacilli.

The second section of the Report outlines the department's activities in connection with the Diseases of Animals Acts and Orders.

During the year, 202 cattle were slaughtered under the Tuberculosis Order of 1925. *Post-mortem* examination of these showed that 35 had suffered from tuberculosis of the udder, 77 from tuberculous emaciation, and 90 from tuberculosis with chronic cough. Sixty-three per cent. of these cattle were "advanced" cases and 37 per cent. "non-advanced." The average valuation of the animals was £8 11s.; the average compensation paid £4 5s.

The incidence of anthrax remained at about its normal level, 89 suspected cases being reported, nine of which were confirmed. Unfortunately, a serious outbreak of sheep scab occurred during the autumn, 32 separate cases being confirmed, and as this outbreak took place in one of the most mountainous districts of lakeland the full difficulties of the veterinary staff in controlling the disease can only be realised by those who have an intimate knowledge of local conditions.

None of the other scheduled diseases was reported during the year.

The markets of the county were regularly inspected by the veterinary staff, who also carried out certain other miscellaneous duties.

From this brief review it will be seen that the duties of the veterinary staff are of a varied and often onerous nature and it says much for Mr. Simpson's administrative ability that, in spite of the great amount of work performed in connection with the Diseases of Animals Acts and Orders, it was found possible to carry out a routine inspection of all the milk-selling farms in the county.

The Chief Veterinary Officer and his staff must view with satisfaction the record of this year's work, on which they are to be sincerely and cordially congratulated.

* * * * *

COLONY AND PROTECTORATE OF NIGERIA

ANNUAL REPORT OF THE VETERINARY DEPARTMENT, NORTHERN PROVINCES, FOR THE YEAR 1931

This valuable report is presented by Captain W. W. Henderson, Chief Veterinary Officer, and is followed by an epitome of a report submitted by Captain G. N. Hall, Veterinary Pathologist. It provides another example of the enormous importance of veterinary science in the development of the British possessions overseas. The livestock return of the animals in the various provinces indicates that approximately three

million cattle, two million sheep, five million goats, five hundred thousand donkeys, two hundred thousand horses, two thousand camels, to say nothing of thirty-four mules and fifty-four ostriches, were under the supervision of the Veterinary Department during the year under review. In the circumstances it is surprising to learn that a reduction of the veterinary staff was adopted as a measure of economy.

Captain Henderson states that the year saw the continuation, on an even larger scale than formerly, of the policy of disease control by the method of immunisation and this in spite of the reduction in staff through retrenchments. He expresses the opinion that it would be a catastrophe if this work, which has been vigorously pursued for the last five or six years, had now to be slowed down, with the possible loss of the present favourable position which has been gained.

The diseases which still menace the health of the cattle of Nigeria are rinderpest, pleuro-pneumonia, blackquarter, hæmorrhagic septicæmia, trypanosomiasis, and more recently, although to a much smaller extent, anthrax. The following are the numbers of cattle immunised against the various diseases during the year:—

Rinderpest	277,776	cattle
Blackquarter	385,966	,,
Pleuro-pneumonia ...	49,753	,,
Hæmorrhagic septicæmia ..	11,190	,,

In addition, 8,886 cattle received treatment for trypanosomiasis, and 1,095 for piroplasmosis.

With regard to the rinderpest inoculation, it is interesting to note that the mortality during the year has averaged out at about 3 per cent., though in some individual herds, and more especially among young stock, it has reached even 10 per cent. One of the most important causes of mortality during double inoculation is redwater (*P. bigeminum* infection). Calves and young animals up to two years of age are the principal victims. This disease occurs either as a breakdown to a dormant infection brought about by the rinderpest inoculation, or as a result of a fresh infection of piroplasms with the rinderpest blood. To overcome the latter difficulty various methods have been tried, the most successful being the addition of 1 per cent. solution of trypanblue to the virulent blood an hour before it is used, or the use of rinderpest-infected goat blood. About 1,500 cattle were also inoculated with formalised spleen vaccine.

Pleuro-pneumonia, a disease which, in the past, caused a heavy mortality every year, is now yielding to inoculation with a suitable vaccine. The ninetieth generation of a strain of organisms from an ox broth peptone and horse serum, when inoculated into cattle gave a slight reaction and a strong immunity.

Reference is made to a dormant form of trypanosomiasis which may become acute during cold weather, as the result of starvation or inoculation against rinderpest. The disease is successfully treated with 4 per cent. solution of antimony tartrate at weekly intervals. Earth eating is regarded as a constant and diagnostic feature of the disease.

A formalised vaccine is prepared for inoculation against hæmorrhagic septicæmia, the concentration of formalin being 2 per cent. and the dose 2 c.c., inoculated subcutaneously.

Some interesting observations have been made in connection with heart water, rickettsia in smears from the intima of the jugular vein and posterior vena cava being regarded as of diagnostic value.

Notwithstanding the financial situation and the retrenchment of members of the laboratory staff, much useful work, including the preparation of a vast quantity of anti-rinderpest serum, blackquarter and other vaccines and research into skin diseases of goats, and other problems, has been carried out. Other matters of economic importance, such as goat breeding experiments, the preparation of Ghee, and the instruction of butchers in the proper method of flaying and drying of skins, have received the attention of the Veterinary Department, which has, in addition, contributed revenue to the extent of over £4,000 by the sale of anti-rinderpest serum and other products. Ll. E. W. B.

RABBIT BREEDING

"The breeding of rabbits for the production of skins and meat has been extensively practised in England since the War," says the Ministry of Agriculture in a recent announcement. "Many cottagers continue to breed cross-bred rabbits for table purposes and sell the skins to the rag-and-bone man for a few coppers, but during the past ten years fanciers and scientific breeders have evolved many new breeds that provide useful coloured skins, which, when properly grown, pelted and prepared for market, are worth several shillings each.

"During 1932, the value of importations of rabbit skins amounted to nearly half-a-million pounds, and of rabbit carcasses to over three-quarters of a million. Many of these skins and and carcasses are re-exported, but the larger proportion remain in this country. Although some of the imported skins are of low quality and require to be dyed before use, others are manufactured in their natural colours. The flesh is imported in either fresh or frozen condition, and finds a ready sale in London.

"From the information given above it will be obvious that there is scope for the extension of the rabbit-breeding industry in this country, and, in order to assist home breeders, the Ministry has issued two new leaflets on the subject; the first (Advisory Leaflet No. 161) on rabbit-breeding generally, and the second (Advisory Leaflet No. 162) on Angora Rabbit Wool Production. In each case advice is given on breeding, housing, feeding, killing and marketing, and in the Angora leaflet there is a special paragraph on the treatment of the wool crop. The leaflets may be obtained from H.M. Stationery Office, Adastral House, Kingsway, London, W.C., price 1d. each, or 9d. per dozen copies net."

XUM

N.V.M.A. Divisional Report

NORTH MIDLAND V.M.A.*

PRESIDENT'S ADDRESS AT SHEFFIELD

A meeting of the above Association was held at the King's Head, Change Alley, Sheffield, on Tuesday, March 28th, 1933, when there were present: Messrs. Abson, Bowett, Fletcher, Green, Robinson, Scott, Thompson, Tullis, Walker and W. Tweed (Hon. Secretary). Messrs. Dobson and Byrne were present as visitors.

Election of President.—Mr. Hudson proposed Mr. F. C. Scott, of Pontefract, as President for the ensuing year. In doing so, he said that no one was better fitted for the position, for Mr. Scott had always been an enthusiastic member of the Association. It was only fair that he (Mr. Hudson) should retire, and he had great pleasure in proposing Mr. Scott.

Mr. Scott, in reply, accepted the position as President, and observed that he must express the indebtedness of the Association to Mr. Hudson, who had occupied the chair for the past two years. From him the Association had every encouragement and help; he had done much good work for the Veterinary Profession as a whole and were it not for his modesty he would have been even better known in the profession than was now the case. They could not forget the many interesting demonstrations of his surgical ability which he had given to the Association, and hoped for his support and guidance during the ensuing year.

Mr. Hudson replied and asked Mr. Scott to take the chair.

Treatment of Animals of Poor Persons.—Major Abson and the Hon. Secretary submitted a report on the arrangements they had made with a sub-committee of the Sheffield Branch of the R.S.P.C.A. They had attended two meetings and had drawn up rules for working the joint scheme for the free treatment of animals of the poor.

These rules were discussed and Mr. Hudson proposed, Mr. Walker seconded, and it was agreed that the scheme be put into operation on these conditions and that a three months' trial be given before any definite arrangements are agreed to as regards payment for medicines.

Appointment of "Record" Representative.—The Hon. Secretary proposed and Major Abson seconded that Mr. Hudson be appointed Divisional Representative of the Association for the *Veterinary Record*, and this was carried unanimously.

Subscriptions.—It was agreed to make subscriptions of £2 2s. to the Victoria Veterinary Benevolent Fund and £1 1s. to the National Horse Association, and payment of the Divisional fee to the N.V.M.A. was authorised.

* Received for publication April 26th.

Presidential Address

The newly-elected President (Mr. Scott) then gave his Address from the Chair, as follows:—

On election to the office of President in this Division, it is usual for the President to address his fellow members, and in the course of so doing to review the matters before the profession at the moment and to speculate a little as to the future. I will endeavour to be brief.

To my mind, the first duty of a President of a Division is to endeavour to maintain harmony amongst its members; this duty has been well carried out by my predecessors, as the fellowship of this Division is second to none. He should also endeavour to have attractive programmes for the meetings in order to invite good attendances and discussions; this has been a feature of the Division which, I hope, will continue. This Division can claim justly to be one which can maintain a good clinical discussion, and I sincerely hope that this also will continue to be. We have members engaged both in public health work and as practitioners, but on no occasion that I remember has a programme been made interesting to one section to the neglect of the other. I know I am right when I say that our public health workers are "practitioner minded."

In accepting this office I am accepting no sinecure, as there is a high standard to follow. I appeal to you all, gentlemen, to support this Division during my year of office by imparting anything useful you may have the good fortune to encounter, by testing by critical discussion anything unproved or untrue, by entering into discussions generally, and by giving moral support to the Division by attending. It would be a very exceptional occurrence for a veterinary surgeon to attend a meeting without gleaning something to reward him for the time spent.

The problems before the profession to-day are many; some are passing phases, but education, employment and research are, and are ever likely to be, of acute interest.

Education and Research.—Present public needs and demands are such that the newly-qualified man must be better equipped to serve them than were his earlier colleagues. It is far easier to acquire knowledge at the hands of a teacher whilst undergoing a course than to glean that knowledge bit by bit when one has graduated, so that a longer period of training for the licence to practice seems to be the natural sequence of events. It behoves the practitioner, too, to lose no opportunity of continuing his education throughout his professional life by being a keen observer and an efficient worker, by keeping *au fait* with the latest information available, by using additional aids to diagnosis

where possible, by discussing matters with one's colleagues and by being prepared to submit to rational clinical trial the findings of others. Besides being an art, Veterinary Medicine is a science. Science is the search for truth, and by doing our duties diligently we shall confirm this fact.

The demand to-day by employers, whether public or private, is for exact information on disease questions; definite diagnoses and prognoses are sought, estimates of losses likely to be sustained, or the cost of any proposed policy of handling, are required. Where a disease is well understood, its cause, spread, diagnosis and methods of immunisation, etc., established, one can prepare a policy for handling such a disease, but unfortunately only a few diseases can be so treated. Too many occur for which the practitioner is short of information as to pathology and for which no satisfactory methods of prevention or treatment are yet forthcoming. I have only to instance diseases of the newly-born or mastitis in cattle to indicate what I mean. There is a limit to what the man in practice can do in "going further" to fathom these problems; he can probably establish a history, clinical course or identity of diseased conditions, and microscopically may find organisms, but unless he has further laboratory facilities or aid, the findings of the microscope are of limited value to him; he has gone as far as he can and the mysteries remain unsolved. Were laboratory aids more readily available to assist the practitioner in these conditions, which are individually small but collectively of considerable magnitude, some, at any rate, would be solved as to their identity, even were successful methods of combating not forthcoming. There is a tendency to-day, for research to be carried out on a set programme, or for extensive losses to be investigated, but in almost every practice there are minor problems of almost daily occurrence, where morbid material is thrown away, on which research might be pursued to some useful purpose. Unfortunately the practitioner is thrown on his own resources, and when he recalls that other diseases have been established as specifics and specific remedies have been forthcoming, he realises how inadequate is the present state of knowledge in a long list of diseases. I feel sure that more useful research could be done by problems being tackled as they occur in practice. It is a question of finance: individual farmers cannot stand the cost, whilst such public money as is available does not allow sufficiently for the undertaking. One's clients are prepared to pay for the application of established information, but where there is much element of speculation, or where one cannot vouch for some kind of successful issue, they demur unless the practitioner is willing to do much of it at his own expense.

I commenced speaking on education, but have drifted into research—the two are really inseparable. To educate oneself includes the carrying out of a good deal of clinical research. There are some aids to diagnosis, which we are inclined to neglect, which if systematically followed would enlighten us considerably, *e.g.*, urine examination, nerve blocking, rectal examinations, the making of all available *post-mortem* examinations, and the provisional use of agents which might eliminate certain diseases. In education, it is not only a matter of a higher standard on graduation, but a will to increase efficiency ever afterwards.

Employment.—The internal combustion engine has done its worst, and yet I do not think the shrinkage in general practice during the last two or three years can be attributed to that. There is no doubt that practitioners are required less thickly on the ground. It is difficult to speculate as to the future in the practitioner's sphere, especially if there is a gradual absorption of public appointments by whole-time staffs, free advice given officially on disease problems and nothing left to the practitioner but casual happenings or cases where clinical skill is required. It is unfortunate that already in some areas the call for veterinary aid has so shrunk that practices have lapsed. The future of members entering public work seems less nebulous, as there is almost bound to be a considerable increase in this channel of usefulness. Were the pasteurising of milk ever adopted in preference to the policy of clean milk from the source, I could see a heavy blow being struck at the employment of veterinary officials, but a recent testing of opinion on this question is rather encouraging. The Veterinary Profession has a heavy responsibility to the public on the milk problem, and it is encouraging to note how every endeavour is made to diagnose tuberculosis in its open forms with a high degree of efficiency. It is difficult to see how the specialised veterinary surgeon can long be denied his proper position in food inspection as the most fit and proper person to perform the duties.

The gratuitous treatment of patients on account of the inability of the owners to pay has now been so organised in the profession in conjunction with the R.S.P.C.A., that although such treatment always was available, it is now on an established basis, well known to you all.

Many veterinary surgeons to-day are concerned about the reading of the intradermal tuberculin test and will be happier when time, experience and observations by experts have further clarified the matter.

Mr. Hudson, on taking the chair two years ago, spoke on recent advances in Veterinary Medicine and Surgery. Although there is little new since then, some have become more popular and have proved their worth. The most striking

recent advance, to my mind, is intradural anæsthesia. There is little doubt that this will become an everyday procedure with most veterinary surgeons practising amongst farm animals. Another comparatively recent treatment which has become more popular on account of the attendant success is the intravenous use of formaldehyde in the dog in the indefinite illness stage which precedes the final collapse in "Stuttgart disease" and also in hæmorrhagic enteritis. Considerable credit should be given to Mr. Nairn, of Blairgowrie, for teaching us the proportion in which to get the best results with formalin in canker; this, I think, can be considered a definite advance.

In the vaccine and serum field, one can readily get astray, unless one is dealing with a certain few specific products and those only from highly reputable sources. The veterinarian knows that success is sometimes spectacular with certain specific sera, *e.g.*, after the intravenous injection in a rapid acute case of swine erysipelas one is led to adopt a very hopeful attitude towards sera and vaccines in general. It is perhaps not out of place to remind ourselves that much discretion is necessary before relying too implicity on stock vaccines. Results are sometimes obtained where no controls have been used, and the vaccine gets a credit which it may not maintain on a later occasion. It is, however, good practice to use them speculatively so long as reasonable results are obtained or until further research should provide a better remedy.

A useful line of treatment where no specific remedy is forthcoming is that of "protein shock," either by withdrawing the animal's own blood and injecting the same subcutaneously, or using that of another, or by using casein. In this address I do not wish to particularise, but to make one exception I would like to say that on one farm where calf pneumonia has been a recurrent disease for at least three years, the best results have been obtained by bleeding an aged animal on the farm which itself had been through a pneumonia outbreak as a calf, and using this blood injected into the affected calves; here there may be no specific antibody, but if there is, it is likely to be the antagonist of the infection on the particular farm. I mention this occurrence as good results are claimed for antisera, whereas what is probably nothing more than normal blood gave the best results on this farm.

I feel that the intensive efforts which are being put forward in the set programme of research are bound to bear fruit before long, so that one may look forward hopefully to the day when we shall be occupied in successfully applying ascertained knowledge instead of being, as at present, so much in the dark.

In the domain of surgery, there is an increase in the number of highly-efficient surgeons, but the presence of hair on the skin, and the surroundings of our patients, together with their resistance to restraint, or even the harmfulness of maintenance in certain positions, will ever limit the extent to which surgical procedure may be carried. In surgery more than in medicine the veterinarian has a large field of useful work on which there is definite knowledge and in which he can practise successfully, but still here we are prepared for further advances as time allows them to emerge.

I look round and see members here who have served the profession well, years before I joined it, and I trust they will forgive my reviewing veterinary matters as I have done, but I claim that an annual review and exhortation is one of the duties of the newly-elected President.

Before closing, I would ask you individually to support your Divisional Representative of the *Veterinary Record*, Mr. Hudson, by keeping him well supplied with material, personal or clinical, suitable for publication in that paper. (Applause.)

Poultry Diseases

The President now called upon Mr. Norman Dobson, B.Sc., M.R.C.V.S., of the Veterinary Laboratory of the Ministry of Agriculture, to present his paper on "Poultry Diseases." [Mr. Dobson's paper received publication in our issue of April 29th (N.S. *13*, 17, pp. 373-377), in which we reproduced a report of a meeting of the Lincolnshire and District Division, N.V.M.A., on which occasion the paper was originally presented.—Ed., *V.R.*]

Following the reading of the paper, the President expressed the hope that all members would take advantage of the occasion to ask Mr. Dobson questions on any points upon which they might be in doubt. They would agree that Mr. Dobson had given a very interesting paper, which had been very much appreciated. (Applause.)

Continuing, Mr. Scott said that there were one or two points which had struck him, one being that many diseases of poultry had similar symptoms to those in the larger animals. The existence of avian tuberculosis in horses had been established, and with the increase in poultry farming of late years, it had been peculiar that the incidence of tuberculosis in horses should also increase. In his practice, several cases of tuberculosis in horses had been discovered, and in every case there was a history of fowls "going light" and being destroyed, the horses being pastured in the same field as the poultry. At present he was awaiting a bacteriological report on one of those cases as to whether the infection was avian or bovine.

In bacillary white diarrhœa it was the practice in his locality for people to purchase eggs for hatching, or young chicks, and he would like

to ask Mr. Dobson if it was advisable to retain some chicks from a flock in which some of the members had succumbed to the disease.

Mr. Thompson related his experience in his adoption, for many years, of pigeon fancying as a hobby. He got a condition in his young birds known as canker. The birds showed diphtheritic deposits and last year all his young birds became affected. The treatment used to be the application of caustics, but he painted the lesions with tincture of iodine. He removed the deposit the next day and again painted the areas with tincture of iodine and they nearly all recovered in ten days' time. Infection was probably introduced by contact with old birds of other competitors. He would like to know if this condition was the pigeon pox from which the fowl pox vaccine was derived.

Mr. Bowett said that, in his experience, bacillary white diarrhœa-infected poultry had not shown any lack of fertility, and he would like to know the best method of disinfecting incubators. He had seen pigeon pox many years ago. Regarding tuberculosis in poultry, he asked if it was more common to get lameness in the left leg and could infection arise from meat meal? He also desired to ask the cost of fowl pox vaccine.

Mr. Hudson asked if Mr. Dobson had found an increase in tuberculosis of horses since poultry farming became extensive. That disease in horses was now more common in his practice. Were fowl pox and roup grouped as the same condition, and was it not possible to get a catarrhal condition in fowls without the formation of any deposit on the comb or wattles?

Mr. Green enquired if blood testing for B.W.D. could be recommended in small establishments where it happened that a few chicks were lost from that disease.

Mr. Fletcher stated that he sometimes got parrots suffering from diarrhœa and asked if Mr. Dobson could enlighten him as to the cause of the condition.

Mr. Dobson, in reply to the questions raised, said that it was impossible to estimate the number of cases of tuberculosis in the horse which were due to the avian type of the bacillus. It was regrettable that so much material was lost and no investigation carried out which would extend our knowledge of the disease. He was very interested to learn from two members of the profession of the increase in the incidence of tuberculosis in horses in their areas and the association of these animals with poultry which "went light."

It was not advisable to breed from birds which had survived an outbreak of B.W.D., as very probably they were "carriers."

To disinfect incubators he recommended fumigation with formaldehyde, which might be prepared by the interaction of formalin on permanganate of potassium. The incubator required to be closed for 24 hours and then scrubbed with a 10 per cent. solution of common washing soda in hot water and allowed to dry. Finally, the incubator should be scrubbed with clean hot water and dried before use.

He had no records which showed that birds affected with tuberculosis were more frequently found to be lame on the left rather than on the right leg.

Meat meal, as prepared in this country, was subjected to superheated steam and therefore was not a likely cause of spread of tuberculosis.

Fowl pox vaccine, as stated in the official leaflet, was supplied from the Veterinary Laboratory of the Ministry of Agriculture and Fisheries at the cost of one penny per dose (minimum charge 2s. 6d.).

The catarrhal condition referred to by Mr. Hudson would probably be roup. In those cases, unless complicated with fowl pox virus, there were no lesions on the comb or mouth.

The condition described by Mr. Thompson in his pigeons would probably be fowl pox. From such a condition the virus was collected originally for the preparation of the fowl pox vaccine. All birds, whether used for breeding purposes or egg production, should be subjected to the agglutination test, as a means of eradicating the disease.

In reply to Mr. Fletcher's question regarding diarrhœa in parrots, without examining the birds it was, of course, impossible to state the cause. Irrational feeding was often noted in these birds and this was a frequent cause of diarrhœa. These birds required grit, and if this was not available, digestive disturbance would occur.

Vote of Thanks.—The meeting terminated with a vote of thanks, proposed by the President, to Mr. Dobson, for so kindly giving the meeting the benefit of his knowledge of poultry diseases. The co-operation of the Ministry of Agriculture in this matter was very much appreciated by veterinary practitioners. (Hear, hear.) The Hon. Secretary seconded the vote of thanks, expressing gratitude for the personal help Mr. Dobson had given him in arranging a successful meeting. He also, on behalf of the members, proposed a vote of thanks to the President for kindly entertaining them to tea.

Wm. Tweed, *Hon. Secretary.*

The General Council of the National Cattle Breeders' Association has passed a resolution expressing the opinion that no breeding cattle from Canada should be imported into Great Britain, except on application by a breed society to the Ministry of Agriculture for permission to import cattle that might be desired in the interests of cattle breeding. It is claimed that any cattle suitable for breeding imported from Canada should undergo similar quarantine conditions to those imposed upon cattle exported to Canada from Great Britain.

In Parliament

The following questions and answers have been recorded in the House of Commons recently:—

British Army (Remounts)

Lieut.-Colonel Moore asked the Financial Secretary to the War Office the number and value of remounts purchased for the Army during the first quarter of 1933 from the Irish Free State, Northern Ireland, Scotland, and England and Wales; and what proportion of these purchased in Northern Ireland were of Irish Free State origin ?

Mr. Cooper: The number for England, Wales and Scotland was 64 remounts at £4,547; and for Ireland 18 remounts at £1,150. No remounts were purchased in the Irish Free State. I am unable to say whether any of those purchased in Northern Ireland were of Irish Free State origin.

. . . . . .

Coal Industry (Horses)

Sir R. Gower asked the Secretary for Mines whether he is aware that the number of cases of ill-treatment of horses and ponies in mines is as high as 61 in Durham, 54 in South Yorkshire, and as low as four in South Wales, and nine in West Yorkshire, during the three years ended 1931; and whether he will direct an inquiry to be made regarding this disparity ?

Mr. E. Brown: If my hon. Friend will compare the figures which he quotes with the numbers of horses employed in the respective districts, he will find that the disparity between Durham and West Yorkshire largely disappears. I am aware that the proportion of cases reported in South Yorkshire still remains high, and that for South Wales low, as compared with the proportions for the two other districts, and I will have some further inquiry made into the matter. The figures are aggregated from an annual return made by each colliery company, and this in turn is compiled from reports made to the manager by horsekeepers and officials in charge of drivers. In these circumstances, it is very difficult to ensure uniformity of compilation, and I am sure it would not be right to draw from these figures the conclusion that there is in fact more actual ill-treatment in the one district than the other. I am satisfied from extensive inquiries made by my predecessors that deliberate ill-treatment of horses in mines is very rare.

Sir R. Gower asked the Secretary for Mines the type and usual size of the horses employed in the anthracite pits in South Wales; the respective weights of empty and full trams usually drawn by these horses below ground; the number of tons usually drawn by these horses per shift worked; the number of shifts worked per week; the general rise or dip of the roads, apart from levels, on which the horses work; and the average cost of each horse per week.

Mr. E. Brown: There is some variation in the type of horse used in anthracite mines in South Wales according to the service required by the conditions of the particular pit. The type most commonly used is the small shire or light cart horse of about 14·2 hands. The usual weight of trams is about ten cwts. empty and 30-36 cwts. loaded. As regards the latter parts of the question, it would be misleading to consider the relation of the task of a horse to its capacity in terms of averages or in relation only to the factors mentioned, without consideration of other important factors involved. It is essentially a matter which calls for care and judgment in the individual case, and from reports of inspections made I have no reason to think that such care and judgment are not being properly exercised in the anthracite pits. I regret that I am unable to furnish the desired information as to cost.

Sir R. Gower asked the Secretary for Mines the number of cases of contravention of the regulations in regard to the care and treatment of horses and ponies employed in mines reported to the inspectors of mines in 1932; the number of separate prosecutions or charges made as a result of these reports, convictions secured, and the amount paid in costs and fines; the number of prosecutions and convictions under the Protection of Animals Act and the fines or other form of punishment imposed in the same year; and whether these cases are confined to a few coalfields or are common to all coalfields ?

Mr. Brown: Including anonymous complaints, there were 46 cases reported to the mines inspectors in 1932 in which the provisions of the Coal Mines Act, 1911, relating to animals were contravened or alleged to have been contravened. All the complaints were investigated and appropriate action taken in those which were considered to be justified. Prosecutions were instituted by the colliery owners in 17 instances, eleven under the Coal Mines Act and six under the Protection of Animals Act, the number of separate convictions being nine and four respectively, and the fines imposed (including costs) amounting to £19 11s. and £11 4s. The North-Western Division is the only one in which there were no complaints reported, but over 80 per cent. of them (including all the convictions) relate to the Northern, Yorkshire and Midland and Southern Divisions.

Sir R. Gower asked the Secretary for Mines whether he is aware that the death and injury rates to the ponies employed in the South Yorkshire Division were more than twice as high during the three years ended 1931 as compared with those relating to the ponies employed in the West Yorkshire Division in the same period; and whether, having regard to the circumstances that the death and injury rates, as a result of accidents, was one in three, one in three, and one in four, for 1929, 1930, and 1931, respectively, in the South Yorkshire Division, he will direct that special attention shall be given by His Majesty's inspectors of mines in order to bring about an improvement ?

Mr. Brown: I am aware that for the three years ended June 30th, 1931, the death and injury rate to horses employed in the mines of South Yorkshire were much higher than in West Yorkshire, the chief reason being that in the latter district the conditions are less dangerous, largely because owing to the relative shallowness of the mines, it is easier to keep the roads in a more settled condition. The same factor operates in regard to accidents to persons, as was shown in the Divisional Inspector's report for 1929. His Majesty's inspectors of mines already give the matter their unremitting attention, and will continue to do so, and by the efforts of all concerned the accident rate has been reduced from a figure of 32 per cent. in 1930 to a corresponding figure of 23 in 1931, and of 22 in 1932.

An Italian breeder who bought some of the Suffolk sheep exhibited at the Milan Fair last year states that they have given great satisfaction. Some of the ewes have had three lambs, and the remainder two; while all have kept in splendid condition both as to flesh and wool. Two clips were taken—in April and December.

Notes and News

The Editor will be glad to receive items of professional interest for inclusion in these columns.

* * * * *

DIARY OF EVENTS

June 7th.—R.C.V.S. Annual General Meeting, 12 noon.
June 7th.—Annual General Meeting of Victoria Veterinary Benevolent Fund.
June 8th.—D.V.S.M. Examination begins.
June 8th.—Meeting of the Lincolnshire and District Division, N.V.M.A., at Peterborough.
June 8th.—Combined Meeting of the Royal Counties, South-Eastern and Central Divisions, N.V.M.A., at the Royal Veterinary College, Camden Town.
June 9th.—R.A.V.C. Annual Dinner, Hotel Victoria.
June 9th.—Special General Meeting of the Yorkshire Division, N.V.M.A., at Leeds.
June 10th.—Meeting of the Scottish Metropolitan Division, at Perth.
June 12th.—Meeting of the Editorial Committee, N.V.M.A., at 2, Verulam Buildings, Gray's Inn, W.C.1, at 4.30 p.m.
June 12th.—D.V.S.M. Oral Examination.
June 28th.—Summer Meeting of the Lancashire V.M.A., Ironbridge Hotel, Eaton Park, near Chester.
June 30th.—Final date for payment of Annual Fees to R.C.V.S.
July 5th.—R.C.V.S. Committee Meetings begin.
July 6th.—Meeting of Council R.C.V.S. for election of President and other Officers.
July 7th.—R.C.V.S. Quarterly Meeting of Council.
July 10th.—R.C.V.S. Membership Examination begins.
Sept. 18th-23rd.—N.V.M.A. Congress, Llandudno.
Sept. 25th-26th.—R.C.V.S. Jubilee Memorial and Bursary Prize Examination.

* * * * *

R.C.V.S. OBITUARY

Lloyd, John Smout, F.R.C.V.S., D.V.S.M. (Vict.), 52, Whirlowdale Road, Millhouses, Sheffield. Graduated Edinburgh, April 25th, 1885. Died May 25th, 1933, aged 69 years.

The Late Mr. J. S. Lloyd

A wide circle of his professional and other friends will regret to hear of the death of Mr. J. S. Lloyd, who had been in ill-health for some years. He had had a long and varied experience as a veterinary surgeon, and from 1901 until his retirement in June, 1930, he was Chief Veterinary Inspector to the Sheffield Corporation. On his retirement he received a clock as a gift from his colleagues, by whom he was held in high esteem. He was also popular with butchers and farmers, and respected by a large section of the community.

Mr. Lloyd carried out much work in the control of animal diseases, and the inspection of food as to its soundness, and in addition he had the care of the Corporation horses and farm animals.

Born at Oswestry, he qualifed as a veterinary surgeon in 1885, and was a Fitzwygram Prizeman for the best student of his time in all the Veterinary Colleges affiliated to the Royal College of Veterinary Surgeons.

For twelve years he practised as veterinary surgeon at Oswestry. Early in 1899 he was appointed meat inspector and veterinary surgeon for the county borough of Burnley, and before coming to Sheffield he was veterinary surgeon to the Sanitary Committee of Manchester Corporation.

Mr. Lloyd was, from 1910 to 1914, a member of the Council of the Royal College of Veterinary Surgeons; a member of the Council of the National Veterinary Medical Association from 1915 to 1930; and secretary of the North Midland Veterinary Association during that period.

In the veterinary profession he was considered to be a man of very sound principles, and an authority on public health veterinary matters. He contributed many important papers on his work to veterinary and other interested societies.

He was honorary secretary of the old Sheffield Horse Show.

The funeral took place at Fulwood, on May 27th, when there was a large attendance of Mr. Lloyd's fellow members of the profession, of representatives of agricultural societies, and of the general public.

The following veterinary surgeons were present: Messrs. W. Tweed, A. Walker, and G. Tullis (representing Mr. Lloyd's late staff); Mr. H. Thompson (representing the North Midland Veterinary Association), together with Major Abson, Captain Johnson, Messrs. T. C. Fletcher, W. H. Murgatroyd, and S. E. Sampson.

* * * * *

PERSONAL

Dr. Jocelyn Moore.—We tender our hearty congratulations to Sir John and Lady Moore and their daughter, Dr. Jocelyn A. M. Moore, M.B., B.S., M.R.C.S., L.R.C.P., on the splendid achievement of the last-named in securing the Fellowship of the Royal College of Surgeons at the unusually early age of 28 years.

* * * * *

DEGREE OF B.SC. (VET. SCI.) (LOND.)

The following members of the Royal College of Veterinary Surgeons, as the result of examinations held in London, in December, 1932, have had conferred upon them the degree of B.Sc. (Vet. Sci.) (Lond.): Messrs. T. A. R. Chipperfield, S. L. Hignett, A. J. James, H. G. Silcock, and E. G. White.

* * * * *

ENGLISH DOCTORS OF VETERINARY SCIENCE UNIVERSITY OF ZURICH

Relative to the announcement, in our issue of May 6th, of the election of Sir Frederick Hobday to the doctorate *honoris causa* of Zurich University, on the occasion of the celebration of the hundreth anniversary of the formation of that institution, we are indebted to Dr. W. Frei, of the Zurich Veterinary Faculty, for the information

that Mr. Hedley C. D. Golledge, F.R.C.V.S., Yeovil, Somerset, who also holds the honorary doctorate of Zurich University, was present at the reading of the proclamation. Other English doctors of the Zurich Veterinary Faculty are Mr. William Scott, F.R.C.V.S., of Bridgwater, Somerset, Mr. James Walker, O.B.E., M.R.C.V.S., late director of the Veterinary Bacteriological Institute, Kabete, Kenya Colony, and Mr. S. H. Whitworth, M.R.C.V.S., of the Ministry of Agriculture's Research Laboratory, Weybridge.

* * * * *

DUKE OF GLOUCESTER AND THE ROYAL VETERINARY COLLEGE

The Duke of Gloucester has recently accepted the office of president of the Royal Veterinary College, held so long by the Duke of Connaught, and on May 22nd, he paid a long visit to the College and inspected not only the old buildings, but those in course of construction. Conducted by Sir Frederick Hobday, the Principal, His Royal Highness was keenly interested in every aspect of the work of the College and in the arrangements made for the students.

* * * * *

THE PRINCE PRESENTS N.H.A.'s BRAVERY MEDAL

H.R.H. The Prince of Wales, during his visit to Cardiff, on Tuesday, May 16th, presented to Mr. Ernest Thomas, a pit boy, aged 19, the Gold Bravery Medal of the National Horse Association of Great Britain, for his action in saving the life of a pit pony in the Merthyr Vale Colliery.

The roof was dislodged, about eight tons falling down and completely covering the pony. Mr. Thomas, after several unsuccessful efforts, managed to get on top of the fall, and relieve the collar, allowing the pony to breathe. For the purpose of rescuing the pony, the pit boy placed himself in a position of extreme peril.

* * * * *

FOOT-AND-MOUTH DISEASE

An outbreak of foot-and-mouth disease occurred at North Farm, Stanton Fitzwarren, near Swindon, Wilts, on May 23rd. The infected area declared by the Ministry of Agriculture takes in parts of Wiltshire, Berkshire, Oxford and Gloucestershire.

* * * * *

SOCIETY OF COUNTY AND MUNICIPAL VETERINARY OFFICERS

A Society of County and Municipal Veterinary Officers was formally inaugurated at a meeting at the Town Hall, Leeds, on May 19th, at which there were present veterinary officers of county and municipal authorities from various parts of England and Wales.

Lieut.-Colonel J. A. Dixon, of Leeds, who presided at the outset, was appointed first President, and Mr. Perkins, Assistant Veterinary Officer to the Durham County Council, was appointed hon. Secretary and Treasurer.

It was decided to hold a general meeting of the Society at Llandudno in September. Lieut.-Colonel Dixon is President of the Yorkshire Division of the National Veterinary Medical Association.

* * * * *

BATTERSEA DOGS' HOME

The above Institution held its seventy-second Annual General Meeting, on April 25th, when Sir Frederick Hobday, who took the Chair, in proposing the adoption of the Report, paid tribute to the philanthropic work carried out by the Institution for more than 70 years (during which time over one-and-a-half-million dogs have passed through its portals) and to the work now performed by Captain Stow Young in connection therewith.

Particular features for gratification in the Report were the statement that 1,952 dogs had been restored to their owners, and that 543 dog owners had had their licences either completely paid for, or a proportion of the licence allotted to them.

* * * * *

LEVERHULME RESEARCH FELLOWSHIPS

The will of the late Lord Leverhulme directed that the income arising from a part of his estate should be devoted to the granting of scholarships for "research and education." In pursuance of this direction, the Trustees of the will have recently made grants for this purpose to several institutions. They have now resolved to devote from income of the fund the sum of £12,000 a year to the establishment of a scheme of research Fellowships. These Fellowships are intended, in the first instance, for the assistance of experienced workers rather than to add to the provision already existing for workers in the early stages of their careers. The Trustees have in mind particularly men and women who are prevented either by pressure of routine duties, or by any other cause, from undertaking, or completing an investigation of value. They have decided, therefore, to place no definite limit to the amount of individual grants, which will be adjusted according to the circumstances of each particular case. The duration of grants will normally not exceed two years. Fellows will usually be required to work at or in connection with a recognised centre of research, either at home or abroad. No subject of enquiry is excluded from the scope of the scheme; but under present conditions, the Trustees intend that preferential consideration should be given to subjects in which the existing provision is inadequate.

Applications (from British-born candidates normally resident in the United Kingdom) and all enquiries and communications in connection with the scheme should be addressed to the Secretary, Leverhulme Fellowship Scheme, Union House, St. Martin's-le-Grand, London, E.C.1, who will furnish further information and a schedule of the particulars required.

The Advisory Committee will meet early in July to consider recommendations for the first awards under this Scheme. They will then be able to deal with applications received up to June 19th. Later applications will be considered at a later date. But it will be a convenience to the Committee if as many applications as possible are in the hands of the Secretary by June 19th.

* * * * *

AGRICULTURAL RESEARCH SCHOLARSHIPS AND STUDENTSHIPS FOR RESEARCH IN ANIMAL HEALTH

The Ministry of Agriculture and Fisheries and the Department of Agriculture for Scotland invite applications for the following *post-graduate* Agricultural Research Scholarships and Studentships for Research in Animal Health, tenable, as from October 1st, 1933, for a period not exceeding three years:—

(1) Three Agricultural Research Scholarships, each of the value of £200 per annum, to which will be added, if necessary, a sum not exceeding £50 per annum for fees and expenses.

(2) Two Studentships, for Research in Animal Health, each of an *inclusive* value of £300 per annum.

Applications must be received not later than June 15th, 1933. Nomination forms and further particulars may be obtained from the Secretary, Ministry of Agriculture and Fisheries, 10, Whitehall Place, London, S.W.1, or from the Secretary, Department of Agriculture for Scotland, York Buildings, Queen Street, Edinburgh, according to the country in which the candidate resides.

* * * * *

MILK RECORDING

The annual report of the Central Council of Milk Recording Societies shows that the Council has kept pace with the rapid developments which have come in the dairy industry. In addition to work in connection with the Milk Reorganisation Commission and a national scheme for butter-fat testing, the Council has put forward a scheme to encourage the use of proved bulls in dairy herds, which is now considered most desirable. It is stated in the report that 122,414 cows and heifers were recorded by the affiliated societies and that the average yield of the cows was 7,396 lb. of milk in the recording year.

* * * * *

ARECOLINE AS A TENIÆFUGE

According to a report in *Rev. Gén. de Méd. Vét.* K. Rusay (*Allatorvosi Lapok*) recommends arecoline for its teniæfugic effect in doses of two milligrams (about 3/100 gr.) for each kilogram of weight in dogs. This is given by the mouth, preferably after 24 hours of fasting, and this is to be preceded by a liquid diet for several days. The drug is to be dissolved in one or two teaspoonsful of warm tea or in a like quantity of bouillon. It is the author's opinion that the teniæfugic action of arecoline is due to the active peristalsis set up and not to any toxic effect on the parasites.

Correspondence

Letters to the Editor should reach the Office not later than by the first post on Tuesday morning for insertion in following Saturday's issue.

All correspondence must bear the name and address of the contributor for publication.

The Editor does not hold himself responsible for the opinions of his correspondents.

* * * * *

"DRY MOUTH"

To the Editor of the Veterinary Record.

Sir,—This condition mentioned by Major Stalker, as reported in the *Veterinary Record* of May 13th, 1933, is evidently very seldom recognised in the British Isles; as, in the discussion which followed his paper, no mention was made of it by other members at the meeting.

I had a similar experience when I brought up the subject in a paper read before the Veterinary Medical Association of Ireland, and reported in the *Veterinary Record*, of June 8th, 1929. Major Stalker made two remarks which interested me: (1) that the disease cannot be detected during training; (2) that he knows of two ways of overcoming the drawback.

I have come across only two men who recognised this condition—one was a dealer's man, who usually broke about 200 colts per annum, and the other an old man who had given their first jumping lessons to three famous Grand National horses. Both these men said that they knew the condition well, and, strangely enough, although unknown to one another, they adopted the same cure. What they said was that, if when they first bitted a horse with the usual breaking bit, he did not salivate (or froth) freely they tied some hairs pulled from the horse's tail on to the centre of bit, allowing the ends to lie loose on the tongue, and they did not attempt to ride—or drive him in long reins—till there was a free flow of saliva; this usually took from three to ten days, if the bit was kept in the mouth for a few hours each day.

The second remark *re* overcoming the drawback was most interesting, and I hope that Major Stalker will kindly give the valuable information to the readers of the *Veterinary Record*—although it may be a question of horsemanship, I think we should all be past masters in that art and be able to give expert advice when asked.

It would be interesting to know the origin of the present day, but old-fashioned breaking bit with keys. Does it not seem probable that this condition was known to our forefathers?

Lastly, I should like to thank Major Stalker for his exceptionally interesting paper; also Mr. D. E. Wilkinson, for his letter in the *Veterinary Record*, of May 20th, 1933, *re* treatment of "dry mouth" with glucose, which is, I am sure, a valuable hint.

Yours faithfully,

Cork. H. T. Ryan, f.r.c.v.s.

* * * * *

VETERINARY INSPECTION OF DAIRY COWS

To the Editor of the Veterinary Record.

Sir,—Mr. Mattinson's letter in this week's *Record* gives one the impression that Section 16 of the Milk and Dairies (Consolidation) Act, 1915, requires fresh publication in the *Veterinary Record*, as apparently, it is not as well known as it should be that this Section provides for compensation for part-time Inspectors who might be thrown out of employment in consequence of the establishment of a whole-time service.

It reads "If in consequence of the passing of the Milk and Dairies Act, 1914, or this Act, or of anything done in pursuance or in consequence thereof, any officer or servant of any Local Authority who held office at the time of the passing of this Act suffers any direct pecuniary loss, or by diminution or loss of fees or salary, he shall be entitled to have compensation paid to him for such pecuniary loss by the Local Authority, and such compensation shall be determined in accordance with and subject to the conditions prescribed by Section one hundred and twenty of the Local Government Act 1888, and that Section with the necessary adaptations shall apply accordingly."

Yours faithfully,

J. H. Wynne.

Denbigh.
May 27th, 1933.

* * * * *

To the Editor of the Veterinary Record.

Sir,—May I be allowed to enter the controversy regarding whole-time Inspectors, which seems to be our chief item of interest? There can be no doubt about the fact that a country practice without a local Inspectorship is not worth having, and where whole-time Inspectors are appointed the practices have deteriorated enormously. Without being personal, I would like to give an example of what has taken place in the West Riding adjacent to Lancashire, where I was formerly in practice. In the Craven district of the West Riding there were four veterinary surgeons in practice, *viz.*, Mr. Eastwood, at Ilkley, Messrs. Whaller and J. F. Rankin at Skipton; and Mr. Richards, at Settle; but now there is only Mr. Richards, and he is at Skipton. Where there were four there is now only one, yet there are two resident whole-time Inspectors—one at Settle and one at Skipton—so there must be a large number of cattle in that area if there

is work for two of them. Again, since Mr. Cliff's death, there has been no resident veterinary surgeon in Todmorden. I am only speaking of that part of the West Riding with which I am intimate, but if that is common throughout the county then these whole-time Inspectorships must have been a great blow to the practitioners of Yorkshire.

Furthermore, are we eradicating tuberculosis from the herds any more rapidly where whole-time Inspectors are employed? A little, undoubtedly, because of the udder cases which are found sooner, but are these few udder cases worth all this expense and upset which is being caused the general practitioner? Certainly not.

The farmer himself knows that as soon as a case of tuberculosis is diagnosed the sooner he gets rid of it the better, and is willing to dispose of it. The same applies to cases of Johne's disease; the farmer will not have them treated, and will sell them as soon as diagnosed. I remember writing an essay, whilst at college in 1913, on the eradication of tuberculosis, in which I said that we were starting at the wrong end of things—we ought to start with the buildings, in similar fashion to the Government in regard to the Housing Schemes; you cannot produce an A.1 nation from C.3 houses, and the same applies to cattle. Start with the buildings and the education of the farmer. When a veterinary surgeon is treating a case of tuberculosis, and he eventually discovers that it is a case of tuberculosis, the farmer is always willing to sacrifice it knowing that it is hopeless to continue any further with treatment. The farmer is ridding the country of tuberculosis, as he is keeping a better class of animal than formerly, and the poorly-developed animal is a drug at any market.

I would very much like to hear more about Professor Buxton's tuberculosis vaccine, because that, applied to young stock, along with better buildings and hygienic surroundings, will do more to eradicate tuberculosis than whole-time Inspectors.

Yours faithfully,
G. C. Lancaster, f.r.c.v.s.

Evesham, Worcs.

* * * * *

REPORTS OF MEETINGS OF DIVISIONS OF THE N.V.M.A.

To the Editor of the Veterinary Record.

Sir,—After reading the final paragraphs of Captain E. Brayley Reynolds' letter in your last issue, I have been thinking that a simple way to avoid obvious errors in reporting would be for the reporter to send typewritten copies of their remarks to each of the contributors to the discussion, so that these could be corrected or revised by the individual speakers. This is already done in some Divisions, and with great benefit both to science and the speakers, as before insertion in the *Record*, a fairly correct report is thus ensured.

Yours truly,
G. Mayall, m.r.c.v.s.

Bolton.

* * * * *

COMPOSITION OF URINARY CALCULI

To the Editor of the Veterinary Record.

Sir,—I should be grateful if you would afford me the hospitality of your columns to enlist the aid of practitioners in augmenting my supply of urinary calculi, together with sabulous secretion (cats), which is required for the purpose of investigation into the above subject, which I am carrying on at the address given below. With thanks in anticipation,

I remain,
Yours faithfully,
E. G. White, b.sc., m.r.c.v.s.

Department of Physiology and Biochemistry,
University College, London.

* * * * *

"SOME MODERN ASPECTS OF ANTHELMINTIC TREATMENT"

To the Editor of the Veterinary Record.

Sir,—In his letter which appears in the *Veterinary Record* of May 27th, 1933, Mr. Brayley Reynolds confirms the statement that he made in my laboratory on February 2nd (not February 22nd, as I said by a slip), that he had undertaken the examination of samples of fæces himself on the score of economy. I still feel, therefore, that it was very ungenerous of him to make the general statement that reports received from laboratories "usually do not afford much guidance," and to imply that he ceased sending specimens for that reason, his own examinations yielding more satisfactory results. It is quite immaterial whether one adds, as he now does, "as to the progress made during the course of treatment of any one animal."

If the reports he received from my laboratory did not quite "fit in with his scheme of things," surely he might have given me some indication of their shortcomings, so that I might have had the opportunity of remedying them, if that were possible. After all, the laboratory worker is trying to assist the practitioner by co-operating with him, and it does not tend to make things easier if he is abruptly told that his reports do not furnish much guidance.

There can be no question of picking my brains with regard to the technique used, because that was published ten years ago. The slight modifications which I have introduced, and which I showed to Mr. Reynolds, are merely for convenience in dealing with numbers of specimens at a time in the laboratory.

With regard to the examination of the sample from the case of enteritis a short time before the death of the mare, I learned this from the only possible source, Mr. Reynolds himself. All the specimens I received from him were numbered serially, and I had, at no time, any knowledge of the identity of the animals from which they were collected. Mr. Reynolds told me that the fact that he found it difficult to co-relate a low egg count with the colossal numbers of "larvæ" found at *post-mortem* examination, was one of his reasons for sending the intestine to me.

Mr. Reynolds says that he specifically mentioned my report on this case at Norwich. The report of the meeting makes no mention of that reference.

I cannot, of course, make any assumptions as to whether Mr. Reynolds was correctly reported or not, but it is my experience that the transcript of what one has said at meetings is submitted for correction and amendment if necessary, before publication.

Yours faithfully,
A. Leslie Sheather.

The Editor acknowledges, with thanks, the receipt of the following:—

Communications from Professor S. H. Gaiger, and Mr. G. O. Davies (Liverpool), Mr. Henry Gray (London), and Professor J. G. Wright (London).

Report of a meeting of the Royal Counties Division, N.V.M.A., from Mr. H. Bell (Hon. Secretary).